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REMARKS

Claims 1-45 are currently pending in the subject application and are presently under consideration. A version of all pending claims is found at pages 2-9. Claims 1,2, 4, 7, 8, 10, 18-19, 21, 24, 26, 29, 33-35, 37-40 and 42-43 have been amended herein to correct minor informalities, and such amendments do not narrow the scope of the claims. Claim 9 has been cancelled herein without prejudice or disclaimer. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I.   OBJECTION OF CLAIM 9 UNDER 37 C.F.R. §1.75(C)

Claim 9 stands objected to under 37 C.F.R. 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Withdrawal of this objection is requested in view of it being moot by cancellation of the subject claim.

II.   Rejection of Claims 1-3 and 11-13 Under 35 U.S.C. §102(b)

Claims 1-3 and 11-13 stand rejected under 35 U.S.C. §102(b) as being anticipated by Shinmura *et al.* (U.S. Patent No. 5,193,171). Withdrawal of this rejection is requested for at least the following reasons. Shinmura *et al.* does not teach or suggest each and every limitation of the subject claims.

> A single prior art reference anticipates a patent claim only if it expressly or inherently describes each and every limitation set forth in the patent claim. *Trintec Industries, Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 USPQ2d 1597 (Fed. Cir. 2002); *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the ... claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

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Independent claim 1 recites: *an inference system that inferentially determines whether to store the item in an active or archived state based at least in part upon information related to at least one of: a property of the item, a property of a user and extrinsic data*. Likewise, independent claim 11 recites ... *means for determining utility of an item...* and *means for inferring whether to store as active or archive the item based upon the determined utility of the item*. Shinmura *et al.* does not teach or suggest these novel aspects of applicant's claimed invention.

The subject invention relates to a system and method that *infers* what a user would like to have done with a particular item in connection with an automated utility-based archival system. In particular, the invention facilitates determining whether to archive or keep active an item based upon an inference-centric analysis (*e.g.* how to store an item based upon a cost-benefit analysis related to maintaining the item in an active state). The archival decision-making is predicated in part upon an inference as to a user's future need or desire to access the item. Moreover, the claimed invention provides for determining relative costs associated with keeping an item active versus benefits related to quick and easy access to the item based in part upon a user's probabilistically determined perceived future need. More particularly, the inference can employ a probabalistic or statistical-based cost-benefit analysis – where cost of maintaining an item in an active state can be measured in terms of the item's size and the benefit can be based on a probabilistic determination that the user will desire to access the item in the future. A formal probabilistic analyses in connection with the claimed invention makes feasible the use of expected utility and a formal value-density. Shinmura *et al.* does not teach or suggest such claimed features of applicant's invention.

Shinmura *et al.* discloses a methodology of managing space on storage devices, peripheral storage devices and ancillary apparatuses. The archival/migration strategy disclosed in Shinmura *et al.* is based upon past user access of a particular file, relative size of that file with respect to total size of an active volume pool and other files presently residing on the active volume pool, and user-declarations regarding file access. Shinmura *et al.* fails to disclose or suggest inferring (*e.g.*, a probabilistic-based or statistical-based scheme for determining) whether an item is a candidate for migration let

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alone performing such inference based upon a determined utility of the item. There is no teaching or suggestion by Shinmura *et al.* of employing an *inference-based approach* to archival decision-making as in applicant's claimed invention. Rather Shinmura *et al.* teaches a rudimentary rule-based archival scheme wherein if the number and/or size of files exceeds a certain threshold than a subset of such files are migrated from an active store to either a secondary spare store (which is employed as an extension of the active store) or an inactive store. The archival decision-making is based on static data (*e.g.*, user declaration that file is in active use, age of file, period of non-use of the file...). There is no notion of employing a sophisticated inference-based approach (which performs a probabalistic or statistical-based analysis) in connection with predicting how a user would likely want an item treated. The inference based system of applicant's invention provides for a highly dynamic system with notions of temporal sensitivity as well as user-specific customization that could not be achieved by the system of Shinmura *et al.* For example, the subject invention can address "one-shot" items (*e.g.*, notification from employee of calling in sick) that have been most recently accessed and are of small size but through inference determine that the user will likely not want to open up such item again (or at least not in the relevant future) and thus immediately migrate such item to an inactive store (for storage and access at a later date if needed). The system of Shinmura *et al.* – in part because of its monolithic design – would keep such item active because it was recently accessed and of small size. Shinmura *et al.* does not teach or suggest *employing inference in connection archival decision-making* as in the claimed invention.

In view of at least the foregoing, it is readily apparent that Shinmura *et al.* neither discloses nor suggests applicant's invention as recited in the subject claims and this rejection should be withdrawn.

III.   **Rejection of Claims 1-4 and 11-13 Under 35 U.S.C. §102(e)**

Claims 1-4 and 11-13 stand rejected under 35 U.S.C. §102(e) as being anticipated by Sakaguchi *et al.* (U.S. Patent No. 6,199,103). It is respectfully requested that this

rejection be withdrawn for at least the following reason. Sakaguchi *et al.* does not teach or suggest each and every limitation of the subject claims.

As stated *supra*, independent claim 1 recites: *an inference system that inferentially determines whether to store the item in an active or archived state based at least in part upon information related to at least one of: a property of the item, a property of a user and extrinsic data.* Likewise, independent claim 11 similarly recites ... *means for inferring whether to store as active or archive the item based upon the determined utility of the item.*

Sakaguchi *et al.* does not teach or suggest such features of applicant's claimed invention. Sakaguchi *et al.* relates to a convention junk e-mail filtering system, and such system not only fails to teach or suggest the subject invention as claimed but teaches away from the invention. Sakaguchi *et al.* utilizes *keyword vectoring analysis* technology to distinguish between "junk" and "non-junk" emails. (Sakaguchi *et al.*, column 6, lines 39-51). If an item is similar enough to a seed representative junk e-mail sample the item is classified as junk. Junk mail filters such as that of Sakaguchi *et al.* are directed toward preventing junk items from even entering into an active store and moreover isolating such items rather than archiving the items. For example, the junk mail filter of Sakaguchi *et al.* would not dynamically migrate an e-mail *between* an active store and a back-up store based on inferred user future desire to access the e-mail as in applicant's claimed invention – the junk mail filter of Sakaguchi *et al.* is uni-directional and isolates a user from being exposed to junk mail as compared to performing dynamic item access and storage management. The claimed invention provides for inferring whether to maintain items in an active store or move such items to an inactive store and *vice versa* as a function of a probabalistic or statistical-based determination as to the user's future needs or desires to access the item.

It is respectfully submitted that Sakaguchi *et al.* neither teaches nor suggests the inference-based archival system recited in the subject claims. Accordingly, withdrawal of this rejection is respectfully requested.

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IV.   **Rejection of Claims 4-6, 14-21, 23-28, 30-37 and 39-45 Under**
        35 U.S.C. §103(a)

Claims 4-6, 14-21, 23-28, 30-37 and 39-45 stand rejected under 35 U.S.C.
§103(a) as being unpatentable over Shinmura *et al.* in view of the article entitled
"Continual Computation Policies for Utility-Directed Prefetching" by Horvitz
(hereinafter 'Horvitz').

It is respectfully submitted that this rejection should be withdrawn for at least the
following reasons. Neither Shinmura *et al.* nor Horvitz, alone or in combination, teach or
suggest applicant's claimed invention, and further, there is no motivation to combine the
references as suggested other that *via* employment of applicant's specification as a 20/20
hindsight-based roadmap to achieve the purported combination.

> To reject claims in an application under §103, an examiner
> must establish a *prima facie* case of obviousness. A *prima*
> *facie* case of obviousness is established by a showing of
> three basic criteria. First, there must be some suggestion or
> motivation, either in the references themselves or in the
> knowledge generally available to one of ordinary skill in
> the art, to modify the reference or to combine reference
> teachings. Second there must be a reasonable expectation
> of success. Finally, the prior art reference (or references
> when combined) *must teach or suggest all the claim*
> *limitations.* See MPEP §706.02(j). *The teaching or*
> *suggestion to make the claimed combination and the*
> *reasonable expectation of success must be found in the*
> *prior art and not based on the Applicant's disclosure. See*
> *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir.
> 1991). An examiner cannot establish obviousness by
> locating references which describe various aspects of a
> patent applicant's invention *without also providing*
> *evidence of the motivating force* which would impel one
> skilled in the art to do what the patent applicant has done.
> *Ex parte Levengod*, 28 USPQ2d 1300 (P.T.O.B.A.&I.
> 1993).

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As discussed *supra*, the subject invention relates to a system and method *that inferentially determines whether to store an item in an active or archived state based at least in part upon information related to at least one of: a property of the item, a property of a user and extrinsic data*. Also as noted above, Shinmura *et al.* merely teaches a conventional method of managing space on storage devices (*e.g.*, active, inactive and peripheral). As conceded by the Examiner, Shinmura *et al.* does not teach or suggest a probabilistic method of predicting likely prospective user transactions. Likewise, Horvitz does not disclose, teach or suggest employing inference in connection with dynamic and on-going storage management of items as inactive or active... .

Horvitz is directed towards utilizing prefetching policies to minimize network latencies inherent with low-bandwidth local communication links to the Internet. In particular, the emphasis in Horvitz is upon using idle time to predictively and automatically identify Internet content of interest to a particular user based upon that user's prior browsing and searching activity, and *a priori* download such content based upon a prediction of the user's relative likelihood of future access. (Horvitz, page 175).

There is no motivation to combine the references in the manner suggested other than via employment of applicant's specification as a 20/20 hindsight-based roadmap to achieve the purported combination. [I]n order to substantiate the motivation necessary to comport with 35 U.S.C. §103, the prior art items themselves must suggest the desirability and thus the obviousness of making the combination without the slightest recourse to the teachings of the patent or application; *see e.g., Amgen, Inc. v. Chugai Pharmaceutical Co. Ltd.*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991). Anything less, is considered to be merely inviting unguided and speculative experimentation which is not the standard with which obviousness is determined. *Id.* As neither Shinmura *et al.* nor Horvitz alone disclose, teach or suggest, utilizing a probabilistic analysis to determine whether or not to archive data items, the Examiner appears to be basing the rejection on the assertion that it would have been obvious to do something not suggested in the art but rather on advantages disclosed in applicant's specification. This sort of rationale has been condemned by the CAFC as being sophistic; *see e.g. Panduit Corp. v. Dennison Manufacturing Co.*, 1 USPQ2d 1593 (Fed. Cir. 1987).

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It is noted that the author of Horvitz is also the inventor of the claimed invention, which further evinces that the cited references do not suggest or provide motivation by themselves to be combined in the manner suggested in the Office Action absent reliance on applicant's specification to provide the necessary motivation for the intimated combination.

In view of at least the foregoing, it is respectfully submitted that the combination of Shinmura *et al.* and Horvitz does not make obvious the subject invention as recited in claims 4-6, 14-21, 23-28, 30-37 and 39-45, and withdrawal of this rejection is respectfully requested.

V.   Rejection of Claims 7-10, 22, 29 and 38 Under 35 U.S.C. §103(a)

Claims 7-10, 22, 29 and 38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shinmura *et al.* in view of Horvitz as applied to claim 6, and further in view of Sakaguchi *et al.* It is respectfully submitted that this rejection should be withdrawn for at least the following reasons.

The subject claims respectfully depend from a subset of claims 4-6, 14-21, 23-28, 30-37 and 39-45 discussed above - Sakaguchi et al. fails to make up for the aforementioned deficiencies of Shinmura *et al.* and Horvitz with respect to these claims. Accordingly, in view of at least the foregoing it is respectfully submitted that this rejection should be withdrawn.

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CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,

AMIN & TUROCY, LLP

Himanshu S. Amin
Reg. No. 40,894

AMIN & TUROCY, LLP
24TH Floor, National City Center
1900 E. 9TH Street
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731

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